said thin film transistor comprising:

a semiconductor layer formed over said substrate having at least source, drain and channel regions and a capacitor forming portion;

a first insulating film adjacent to said channel region; and

a gate electrode adjacent to said channel region with said first insulating film interposed therebewteen,

a storage capacitor electrically connected to said thin film transistor, said storage capacitor comprising:

said capacitor forming portion of the semiconductor layer;

a capacitor forming electrode adjacent to said capacitor forming portion wherein said capacitor forming electrode is formed from a same conductive layer as said gate electrode; and

a second insulating film interposed between said capacitor forming portion and said capacitor forming electrode,

wherein said first insulating film is thicker than said second insulating film.

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28. A semiconductor device comprising:

a substrate;

at least one pixel electrode formed over said substrate;

at least one thin film transistor formed over said substrate for switching said pixel electrode, said thin film transistor comprising:

a semiconductor layer formed over said substrate having at least source, drain and channel regions and a capacitor forming portion;

a first insulating film formed on said channel region; and

a gate electrode formed over said channel region with said first insulating film interposed therebewteen,

a storage capacitor electrically connected to said thin film transistor, said storage capacitor comprising:

said capacitor forming portion of the semiconductor layer;

a capacitor forming electrode formed over said capacitor forming portion; and

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a second insulating film interposed between said capacitor forming portion and said capacitor forming electrode,

wherein said first insulating film is thicker than said second insulating film.

20
~~29~~. A semiconductor device comprising:

a substrate;

a semiconductor layer formed over said substrate, said semiconductor layer having at least a pair of impurity regions and a channel region extending therebetween and a capacitor forming portion;

a first insulating film formed adjacent to said channel region;

a second insulating film formed adjacent to said capacitor forming portion of the semiconductor layer, wherein said first insulating film is thicker than said second insulating film;

a gate electrode formed adjacent to said channel region with said first insulating film interposed therebetween;

a capacitor forming electrode formed adjacent to said capacitor forming portion of the semiconductor layer with said second insulating film to form a storage capacitor, wherein said capacitor forming electrode is formed from a same conductive layer as said gate electrode;

a third insulating film formed over said storage capacitor and said gate electrode;

an electrode formed on said third insulating film;

a fourth insulating film formed over said third insulating film and said electrode;

a black mask formed on said fourth insulating film;

a fifth insulating film formed over said fourth insulating film and said black mask; and

a pixel electrode formed on said fifth insulating film and electrically connected to one of said pair of impurity regions.

21
~~30~~. A semiconductor device comprising:

a substrate;

a semiconductor layer formed over said substrate, said semiconductor layer having at least

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a pair of impurity regions and a channel region extending therebetween and a capacitor forming portion;

a first insulating film formed on said channel region;

a second insulating film formed on said capacitor forming portion of the semiconductor layer;

a gate electrode formed over said channel region with said first insulating film interposed therebetween;

a capacitor forming electrode formed over said capacitor forming portion of the semiconductor layer with said second insulating film to form a storage capacitor, wherein said first insulating film is thicker than said second insulating film;

a third insulating film formed over said storage capacitor and said gate electrode;

an electrode formed on said third insulating film;

a fourth insulating film formed over said third insulating film and said electrode;

a black mask formed on said fourth insulating film;

a fifth insulating film formed over said fourth insulating film and said black mask; and

a pixel electrode formed on said fifth insulating film and electrically connected to one of said pair of impurity regions.

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31. A semiconductor device comprising:

a substrate;

a light shielding conductive layer formed over said substrate;

at least one pixel electrode formed over said substrate;

at least one thin film transistor formed over said substrate for switching said pixel electrode, said thin film transistor comprising:

a semiconductor layer having at least source, drain and channel regions and a capacitor forming portion, wherein at least said channel region is overlapped with said light shielding conductive layer;

a first insulating film formed on said channel region; and

a gate electrode formed over said channel region with said first insulating film interposed therebewteen,

a storage capacitor electrically connected to said thin film transistor, said storage capacitor comprising:

said capacitor forming portion of the semiconductor layer;

a capacitor forming electrode formed over said capacitor forming portion; and

a second insulating film interposed between said capacitor forming portion and said capacitor forming electrode,

wherein said second insulating film is thicker than said third insulating film.

22. A semiconductor device comprising:

a substrate;

a light shielding conductive layer formed over said substrate;

a first insulating film formed on said light shielding conductive layer;

a semiconductor layer formed on said first insulating film, said semiconductor layer having at least a pair of impurity regions and a channel region extending therebetween and a capacitor forming portion, wherein at least said channel region is overlapped with said light shielding conductive layer;

a second insulating film formed on said channel region;

a third insulating film formed on said capacitor forming portion of the semiconductor layer;

a gate electrode formed over said channel region with said second insulating film interposed therebetween;

a capacitor forming electrode formed over said capacitor forming portion of the semiconductor layer with said third insulating film to form a storage capacitor, wherein said second insulating film is thicker than said third insulating film;

a fourth insulating film formed over said storage capacitor and said gate electrode;

an electrode formed on said fourth insulating film;

a fifth insulating film formed over said fourth insulating film and said electrode;

a black mask formed on said fifth insulating film;

a sixth insulating film formed over said fifth insulating film and said black mask; and

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B1 24. a pixel electrode formed on said sixth insulating film and electrically connected to one of said pair of impurity regions.

24
~~33~~. A projector comprising:

a light source; and

a liquid crystal panel for modulating light from said light source, said liquid crystal panel comprising:

a substrate;

at least one pixel electrode formed over said substrate;

at least one thin film transistor formed over said substrate for switching said pixel electrode, said thin film transistor comprising:

a semiconductor layer formed over said substrate having at least source, drain and channel regions and a capacitor forming portion;

a first insulating film adjacent to said channel region; and

a gate electrode adjacent to said channel region with said first insulating film interposed therebewteen,

a storage capacitor electrically connected to said thin film transistor, said storage capacitor comprising:

said capacitor forming portion of the semiconductor layer;

a capacitor forming electrode adjacent to said capacitor forming portion wherein said capacitor forming electrode is formed from a same conductive layer as said gate electrode; and

a second insulating film interposed between said capacitor forming portion and said capacitor forming electrode,

wherein said first insulating film is thicker than said second insulating film.

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~~34~~. A projector comprising:

a light source; and

a liquid crystal panel for modulating light from said light source, said liquid crystal panel comprising:

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a substrate;

at least one pixel electrode formed over said substrate;

at least one thin film transistor formed over said substrate for switching said pixel electrode, said thin film transistor comprising:

a semiconductor layer formed over said substrate having at least source, drain and channel regions and a capacitor forming portion;

a first insulating film formed on said channel region; and

a gate electrode formed over said channel region with said first insulating film interposed therebewteen,

a storage capacitor electrically connected to said thin film transistor, said storage capacitor comprising:

said capacitor forming portion of the semiconductor layer;

a capacitor forming electrode formed over said capacitor forming portion; and

a second insulating film interposed between said capacitor forming portion and said capacitor forming electrode,

wherein said first insulating film is thicker than said second insulating film.

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~~35~~. A projector comprising:

a light source; and

a liquid crystal panel for modulating light from said light source, said liquid crystal panel comprising:

a substrate;

a semiconductor layer formed over said substrate, said semiconductor layer having at least a pair of impurity regions and a channel region extending therebetween and a capacitor forming portion;

a first insulating film formed adjacent to said channel region;

a second insulating film formed adjacent to said capacitor forming portion of the semiconductor layer, wherein said first insulating film is thicker than said second insulating film;

a gate electrode formed adjacent to said channel region with said first insulating film

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interposed therebetween;

a capacitor forming electrode formed adjacent to said capacitor forming portion of the semiconductor layer with said second insulating film to form a storage capacitor, wherein said capacitor forming electrode is formed from a same conductive layer as said gate electrode;

a third insulating film formed over said storage capacitor and said gate electrode;

an electrode formed on said third insulating film;

a fourth insulating film formed over said third insulating film and said electrode;

a black mask formed on said fourth insulating film;

a fifth insulating film formed over said fourth insulating film and said black mask; and

a pixel electrode formed on said fifth insulating film and electrically connected to one of said pair of impurity regions.

27
~~36~~. A projector comprising:

a light source; and

a liquid crystal panel for modulating light from said light source, said liquid crystal panel comprising:

a substrate;

a semiconductor layer formed over said substrate, said semiconductor layer having at least a pair of impurity regions and a channel region extending therebetween and a capacitor forming portion;

a first insulating film formed on said channel region;

a second insulating film formed on said capacitor forming portion of the semiconductor layer;

a gate electrode formed over said channel region with said first insulating film interposed therebetween;

a capacitor forming electrode formed over said capacitor forming portion of the semiconductor layer with said second insulating film to form a storage capacitor, wherein said first insulating film is thicker than said second insulating film;

a third insulating film formed over said storage capacitor and said gate electrode;

an electrode formed on said third insulating film;

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a fourth insulating film formed over said third insulating film and said electrode;

a black mask formed on said fourth insulating film;

a fifth insulating film formed over said fourth insulating film and said black mask; and

a pixel electrode formed on said fifth insulating film and electrically connected to one of said pair of impurity regions.

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~~37~~. A projector comprising:

a light source; and

a liquid crystal panel for modulating light from said light source, said liquid crystal panel comprising:

a substrate;

a light shielding conductive layer formed over said substrate;

at least one pixel electrode formed over said substrate;

at least one thin film transistor formed over said substrate for switching said pixel electrode, said thin film transistor comprising:

a semiconductor layer having at least source, drain and channel regions and a capacitor forming portion, wherein at least said channel region is overlapped with said light shielding conductive layer;

a first insulating film formed on said channel region; and

a gate electrode formed over said channel region with said first insulating film interposed therebewteen,

a storage capacitor electrically connected to said thin film transistor, said storage capacitor comprising:

said capacitor forming portion of the semiconductor layer;

a capacitor forming electrode formed over said capacitor forming portion; and

a second insulating film interposed between said capacitor forming portion and said capacitor forming electrode,

wherein said second insulating film is thicker than said third insulating film.

28. A projector comprising:

a light source; and

a liquid crystal panel for modulating light from said light source, said liquid crystal panel comprising:

a substrate;

a light shielding conductive layer formed over said substrate;

a first insulating film formed on said light shielding conductive layer;

a semiconductor layer formed on said first insulating film, said semiconductor layer having at least a pair of impurity regions and a channel region extending therebetween and a capacitor forming portion, wherein at least said channel region is overlapped with said light shielding conductive layer;

a second insulating film formed on said channel region;

a third insulating film formed on said capacitor forming portion of the semiconductor layer;

a gate electrode formed over said channel region with said second insulating film interposed therebetween;

a capacitor forming electrode formed over said capacitor forming portion of the semiconductor layer with said third insulating film to form a storage capacitor, wherein said second insulating film is thicker than said third insulating film;

a fourth insulating film formed over said storage capacitor and said gate electrode;

an electrode formed on said fourth insulating film;

a fifth insulating film formed over said fourth insulating film and said electrode;

a black mask formed on said fifth insulating film;

a sixth insulating film formed over said fifth insulating film and said black mask; and

a pixel electrode formed on said sixth insulating film and electrically connected to one of said pair of impurity regions.

39. The semiconductor device according to claim 27, wherein a film thickness of said first insulating film is between 50 to 200 nm and a film thickness of said second insulating film is between 5 to 50 nm.

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31 19
~~40~~. The semiconductor device according to claim ~~28~~, wherein a film thickness of said first insulating film is between 50 to 200 nm and a film thickness of said second insulating film is between 5 to 50 nm.

32 20
~~41~~. The semiconductor device according to claim ~~29~~, wherein a film thickness of said first insulating film is between 50 to 200 nm and a film thickness of said second insulating film is between 5 to 50 nm.

33 21
~~42~~. The semiconductor device according to claim ~~30~~, wherein a film thickness of said first insulating film is between 50 to 200 nm and a film thickness of said second insulating film is between 5 to 50 nm.

34 22
~~43~~. The semiconductor device according to claim ~~31~~, wherein a film thickness of said first insulating film is between 50 to 200 nm and a film thickness of said second insulating film is between 5 to 50 nm.

35 23
~~44~~. The semiconductor device according to Claim ~~32~~, wherein a film thickness of said second insulating film is between 50 to 200 nm and a film thickness of said third insulating film is between 5 to 50 nm.

36 24
~~45~~. The projector according to claim ~~33~~, wherein a film thickness of said first insulating film is between 50 to 200 nm and a film thickness of said second insulating film is between 5 to 50 nm.

37 25
~~46~~. The projector according to claim ~~34~~, wherein a film thickness of said first insulating film is between 50 to 200 nm and a film thickness of said second insulating film is between 5 to 50 nm.

38 26
~~47~~. The projector according to claim ~~35~~, wherein a film thickness of said first insulating film is between 50 to 200 nm and a film thickness of said second insulating film is between 5 to 50 nm.

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39 27
~~48~~. The projector according to claim ~~36~~, wherein a film thickness of said first insulating film is between 50 to 200 nm and a film thickness of said second insulating film is between 5 to 50 nm.

40 28
~~49~~. The projector according to claim ~~37~~, wherein a film thickness of said first insulating film is between 50 to 200 nm and a film thickness of said second insulating film is between 5 to 50 nm.

41 29
~~50~~. The projector according to Claim ~~38~~, wherein a film thickness of said second insulating film is between 50 to 200 nm and a film thickness of said third insulating film is between 5 to 50 nm.

42 22
~~51~~. The semiconductor device according to Claim ~~31~~, wherein said light shielding conductive layer comprises a material selected from the group consisting of phosphorous doped silicon, boron doped silicon, tungsten, tantalum, molybdenum, titanium, metal silicide and metal nitrate.

43 23
~~52~~. The semiconductor device according to Claim ~~32~~, wherein said light shielding conductive layer comprises a material selected from the group consisting of phosphorous doped silicon, boron doped silicon, tungsten, tantalum, molybdenum, titanium, metal silicide and metal nitrate.

44 28
~~53~~. The projector according to Claim ~~37~~, wherein said light shielding conductive layer comprises a material selected from the group consisting of phosphorous doped silicon, boron doped silicon, tungsten, tantalum, molybdenum, titanium, metal silicide and metal nitrate.

45 29
~~54~~. The projector according to Claim ~~38~~, wherein said light shielding conductive layer comprises a material selected from the group consisting of phosphorous doped silicon, boron doped silicon, tungsten, tantalum, molybdenum, titanium, metal silicide and metal nitrate.

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~~55~~. The semiconductor device according to Claim ~~31~~, wherein said light shielding conductive layer is floating.

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47
~~56~~. The semiconductor device according to Claim ~~32~~ 23, wherein said light shielding conductive layer is floating.

48 28
~~57~~. The projector according to Claim ~~37~~, wherein said light shielding conductive layer is floating.

49 29
~~58~~. The projector according to Claim ~~38~~, wherein said light shielding conductive layer is floating.

50 22
~~59~~. The semiconductor device according to Claim ~~31~~, wherein said light shielding conductive layer is electrically connected to a fixed potential.

51 23
~~60~~. The semiconductor device according to Claim ~~32~~, wherein said light shielding conductive layer is electrically connected to a fixed potential.

52 28
~~61~~. The projector according to Claim ~~37~~, wherein said light shielding conductive layer is electrically connected to a fixed potential.

53 29
~~62~~. The projector according to Claim ~~38~~, wherein said light shielding conductive layer is electrically connected to a fixed potential.

54 18
~~63~~. An electronic device having the semiconductor device of claim ~~27~~, wherein said electronic device is selected from the group consisting of a portable telephone, a video camera, a mobile computer, a goggle type display, a personal computer, an electronic game equipment, an image reproduction device, and a digital camera.

55 19
~~64~~. An electronic device having the semiconductor device of claim ~~28~~, wherein said electronic device is selected from the group consisting of a portable telephone, a video camera, a mobile computer, a goggle type display, a personal computer, an electronic game equipment, an image